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10/583,968	10/31/2006	Werner Bernzen	8009-88192	8389

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EXAMINER	
ALGAHAIM, HELAL A	
ART UNIT	PAPER NUMBER
3663	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/583,968	BERNZEN, WERNER	
	Examiner	Art Unit	
	HELAL A. ALGAHAIM	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(**a**) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims **1, 2, 3, 16 and 18** are rejected under 35 U.S.C. 103(**a**) as being unpatentable over **Ohnishi et al (Patent Number: 525087) in view of Eckert et al (Pub Number: 6416441)**.

Regarding claims 1 and 18: Ohnishi et al discloses a method and an apparatus for influencing an actual engine torque delivered by an engine (6) which is part of drive means (7) of a vehicle,

wherein the actual engine torque (M.sub.i), at an uphill oriented starting operation or at an uphill travel, is determined as a function of a determined roadway inclination (.THETA.*) which represents a roadway inclination in the travel direction **(see col. 13, lines 15-36)**

Ohnishi et al does not explicitly disclose characterized in that a brake pedal variable (s) is determined which represents a driver-caused deflection of a brake pedal (9) cooperating with braking means (30) of the vehicle, and the actual engine torque (M.sub.i) delivered by the engine (6) is further determined as a function of the determined brake pedal variable. **However, Eckert et al discloses this limitation, see at least fig. 7 and col. 8, lines 15-29 and claim 9. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the feature taught by Eckert et al in Ohnishi et la method to ensure that the vehicle does not roll backward.**

Regarding claim 2: The combination of Ohnishi et al and Echert et al disclose the method as defined in claim 1, characterized in that the actual engine torque (M.sub.i) is determined in such a manner as a function of the roadway inclination (.THETA.*) that the vehicle assumes, independently from the roadway inclination, a low travel speed (v.sub.f) which, in particular, has a typical magnitude for a creeping motion of a vehicle provided with an automatic transmission or an automatic gearbox or a transmission with an automatic clutch (**see Ohnishi et al, at least claim 2**).

Regarding claim 3: The combination of Ohnishi et al and Echert et al disclose the method as defined in claim 1, characterized in that a magnitude for a nominal engine torque (M.sub.s) is determined as a function of the roadway inclination (.THETA.*) and the brake pedal variable (s) and that the actual engine torque (M.sub.i) is set in accordance with the determined magnitude of the nominal engine torque (**see Eckert, claims 31**).

Regarding claim 8: The combination of Ohnishi et al and Echert et al disclose The method as defined in claim 3, characterized in that the nominal engine torque (M.sub.s) is additionally determined as a function of a vehicle mass variable representing the mass of the vehicle and/or as a function of a rolling resistance variable characterizing the rolling resistance of the driven wheels traveling on the roadway (**see Ohnishi et al , at least fig. 3**).

Regarding claim 16: The combination of Ohnishi et al and Echert et al disclose the method as defined in claim 1, characterized in that a recognition of the uphill-directed start operation or

uphill travel is effected by an evaluation of a gear shift variable (x.sub.g) which represents the gear set by the driver or a travel stage variable (x.sub.g') which represents the automatically set travel stage and by an evaluation of the roadway inclination (**see Ohnishi et al, at least abstract**).

Regarding claim 17: The method as defined in claim 3, characterized in that the influencing of the actual engine torque (M.sub.i) is effected in a previously determined travel speed range, and the influencing of the actual engine torque (M.sub.i) decreases with increasing travel speed (**see Echert et al, page1, paragraph 0003**).

3. Claims **4, 5, 9, 10, 11 and** are rejected under 35 U.S.C. 103(**a**) as being unpatentable over **Ohnishi et al (Patent Number: 525087) in view of Eckert et al (Patent Number: 6416441)** in further view of Onoyama et al (**Pub. Number: 2001/0013701).**

Regarding claim 4: The combination of Ohnishi et al and Echert et al disclose the method as defined in claim 3, **but do not explicitly disclose** the brake pedal variable (s) has a range defined by a lower limit (s.sub.a) corresponding to the non-actuated state of the brake pedal (9) and an upper limit (s.sub.b) corresponding to a maximum possible deflection of the brake pedal (9), wherein the magnitude of the nominal engine torque (M.sub.s) decreases from a maximum magnitude (M.sub.s,max) at the lower limit (s.sub.a) toward the upper limit (s.sub.b). **However, Onoyama et al discloses these limitation, see at least abstract and fig. 4. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the**

features as taught by Onoyama et al in the combination of Ohnishi et al and Echert et al **methods for automatically stopping and restarting an engine.**

Regarding claim 5: The combination of Ohnishi et al and Echert et al in view of Onoyama disclose the method as defined in claim 4, characterized in that for magnitudes of the brake pedal variable (s) which correspond to an intermediate magnitude (s.sub.0) lying in the range between the lower limit (s.sub.a) and the upper limit (s.sub.b), the nominal engine torque (M.sub.s) assumes a constant, particularly zero, magnitude (**see Onoyama et al, at least fig. 4**).

Regarding claim 9: The combination of Ohnishi et al and Echert et al in view of Onoyama disclose the method as defined in claim 4, characterized in that as a function of the brake pedal variable (s), in the wheel braking devices (29) of the vehicle a braking force (F.sub.v) is generated which increases from the lower limit (s.sub.a) toward the upper limit (**see Onoyama et al, at least fig. 4**).

Regarding claim 10: The combination of Ohnishi et al and Echert et al in view of Onoyama disclose the method as defined in claim 5, characterized in that the intermediate magnitude (s.sub.0) of the brake pedal variable (s) is determined as a function of the roadway inclination (**see Onoyama et al, at least fig. 4**).

Regarding claim 11: The combination of Ohnishi et al and Echert et al in view of Onoyama disclose the method as defined in claim 5, characterized in that the intermediate magnitude

(s.sub.0) is determined as a function of the roadway inclination (.THETA.*) in such a manner that the vehicle is maintained at a standstill on an inclined roadway by the braking force (F.sub.v) generated in the wheel braking devices (29) at the intermediate magnitude (**see Onoyama et al, at least fig. 4**).

Regarding claim 12: The combination of Ohnishi et al and Echert et al in view of Onoyama disclose the method as defined in claim 11, characterized in that the intermediate magnitude (s.sub.0) is determined as a function of the roadway inclination (.THETA.*) in such a manner that when the magnitude of the brake pedal variable (s) falls below the intermediate magnitude (s.sub.0) toward the lower limit (s.sub.a), the braking force (F.sub.v) generated in the wheel braking devices (29) and the actual engine torque (M.sub.i) effected by the nominal engine torque (M.sub.s) maintain the vehicle at a standstill on an inclined roadway oriented in a driver-selected direction, until the actual engine torque (M.sub.i) effected correspondingly to the nominal engine torque (M.sub.s) becomes large enough at a sufficiently small magnitude of the brake pedal variable (s) for setting the vehicle in uphill motion on the inclined roadway (**see Onoyama et al, fig. 4 and page 4, paragraph 0072**).

4. Claims **4, 5, 9, 10, 11 and 12** are rejected under 35 U.S.C. 103(**a**) as being unpatentable over **Ohnishi et al (Patent Number: 525087) in view of Eckert et al (Patent Number: 6416441) in further view of Onoyama et al (Pub. Number: 2001/0013701) and Bodin et al (PCT Pub. No.: WO03/013897).**

5. **Note: reference is made to the US patent 7206682 , English version, for citations.**

Regarding claim 6: The combination of Ohnishi et al and Echert et al in view of Onoyama disclose the method as defined in claim 4, **but do not explicitly disclose** the maximum nominal engine torque (M.sub.s,max) as a function of the roadway inclination (.THETA.*) is determined by the equation M.sub.s,max=M.sup.0.sub.s,max+k.|.THETA.*|, wherein k is a factorial function and M.sup.0.sub.s,max is the engine torque (M.sub.s) obtained by the idling regulator of the engine at a set travel stage on a roadway without inclination. **However, Bodin et al discloses these limitation, see at least claim 4. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the algorithm taught by Bodin et al in the combination of Ohnishi et al and Echert et al in view of Onoyama methods to determine the maximum holding torque for holding on a slope.**

Regarding claim 7: The combination of Ohnishi et al and Echert et al in view of Onoyama disclose the method as defined in claim 6, characterized in that the factorial function (k) is selected in such a manner that at least in the lower limit (s.sub.a) of the brake pedal variable (s) the vehicle assumes, independently from the roadway inclination, a low travel speed (v.sub.f) which is particularly typical for a creeping motion of a vehicle having an automatic transmission, or an automatic gearbox or a transmission with an automatic clutch (**see Onoyama et al, claim 1**).

6. Claims **13-15 and** are rejected under 35 U.S.C. 103(**a**) as being unpatentable over **Ohnishi et al (Patent Number: 525087) in view of Eckert et al (Patent Number: 6416441) in further view of Lu et al (Pub. Number: 2003/0212482)**

Regarding claim 13: The combination of Ohnishi et al and Echert et al disclose the method as defined in claim 1, **but do not explicitly disclose** the roadway inclination (.THETA.*) is determined from a longitudinal roadway inclination (.THETA.) which represents a roadway inclination in the length direction of the vehicle, a transverse roadway inclination (.PHI.) which represents a roadway inclination in the transverse direction of the vehicle and a yaw angle (.beta.) which represents a yaw angle of the vehicle. **However, Lu et al discloses these limitation, see at least fig. 2, fig. 3 and fig. 5. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the algorithm taught by Lu et al in the combination of Ohnishi et al and Echert et al methods for the road surface.**

Regarding claim 14: The combination of Ohnishi et al and Echert et al in view of Lu et al disclose the method as defined in claim 13, characterized in that the longitudinal roadway inclination (.THETA.) is determined from a difference between a total acceleration or a total deceleration in the length direction of the vehicle and a longitudinal vehicle acceleration or a longitudinal vehicle deceleration, obtained from a speed change in the length direction of the vehicle and/or the transverse roadway inclination (.PHI.) is determined from a difference between a total acceleration or a total deceleration in the transverse direction of the vehicle, obtained from a speed change in the transverse direction of the vehicle (**see Lu et al, page 1,**

paragraph 0005).

Regarding claim 15: The combination of Ohnishi et al and Echert et al in view of Lu et al disclose the method as defined in claim 14, characterized in that the longitudinal vehicle acceleration or the longitudinal vehicle deceleration and/or the transverse vehicle acceleration or the transverse vehicle deceleration are determined as a function of the change in time of a wheel rpm variable representing the wheel rpm of at least one of the driven vehicle wheels, while a steering angle (.delta.) is taken into account which represents a steering angle set by a steering wheel (25) at the steerable vehicle wheels (**see Lu et al, fig. 1, 2 and 3**).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELAL A. ALGAHAIM whose telephone number is (571)270-5227. The examiner can normally be reached on Monday - Friday from 7:30 AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack W. Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. A. A./
Examiner, Art Unit 3663

/Jack W. Keith/
Supervisory Patent Examiner, Art Unit 3663